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(21) International Application Number: PCT/US99/00371 (22) International Filing Date: 12 January 1999 (12.01.99) (30) Priority Data: 60/071,640 16 January 1998 (16.01.98) US (71) Applicant (for all designated States except US): PHARMACIA & UPJOHN COMPANY [US/US]; 301 Henrietta Street, Kalamazoo, MI 49001 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): QUINN, Cheryl, L. [US/US]; 3010 Ridgeview Circle, Kalamazoo, MI 49008 (US). FORD, Charles, W. [US/US]; 1306 Carriage Place, Portage, MI 49024 (US). (74) Agent: WOOTTON, Thomas, A.; Intellectual Property Legal Services, Pharmacia & Upjohn Company, 301 Henrietta Street, Kalamazoo, MI 49001 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: AN AUTOREGULATORY SYSTEM FOR VALIDATING MICROBIAL GENES AS POSSIBLE ANTIMICROBIAL TARGETS USING A TETRACYCLINE-CONTROLLABLE ELEMENT (57) Abstract <p>A screen has been designed to genetically engineer microbial pathogens so that expression of specific genes can be regulated <i>in vitro</i> and during host infection to facilitate the identification of bacterial genes essential for maintaining an infection. Specifically, gene regulatory elements which respond to the presence or absence of tetracycline are used to regulate the expression of endogenous bacterial genes. Because tetracycline is not normally present in animals, a tetracycline-regulated microbial gene can be controlled <i>in vivo</i> by adding or removing tetracycline from the infected animals' diet.</p>		

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